



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/628,804 07/28/00 VENET

N 060260

QM12/1010
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EXAMINER

TUGRANG, D

ART UNIT

PAPER NUMBER

3729

DATE MAILED:

10/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/628,804

Applicant(s)

VENET ET AL

Examiner

Dexter Tugbang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The applicant(s) Amendment filed 7/25/01 (in Paper No. 7) has been fully considered and made of record.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

3. Pursuant to 37 C.F.R. 1.84 (u)(1), the drawing objection has been withdrawn as to the requirement of a numbered label for the only one, single figure presented in the instant application.

Claim Rejections - 35 USC § 112

4. Claims 1-3 and 8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 contains ambiguous claim terminology which is unclear whether later recitations of originally recited terms are intended to refer to the originally recited terms. The phrases of “one or more conductive tracks” (2 occurrences at lines 6 and 7) and “one or more windings” (line 7), are unclear if these are referring to “one or more conductive tracks” (line 2) and “one or

more windings” (line 3), previously recited in the preamble. How many conductive tracks and windings are there?

Furthermore, Claim 1 is replete with the alternative language of “or” (5 occurrences each at lines 2, 3, 6 and 7). This makes it impossible to determine what relationship exists between the claimed elements, i.e. the one or more conductive tracks and one or more windings. This multitude of alternative language in one single claim renders the claim as being vague, indefinite, confusing and misleading.

In Claim 8, the phrase “the conductive track elements” (line 14) lacks positive antecedent basis.

In Claim 9, the phrase “the first supplementary support” (line 3) lacks positive antecedent basis. Additionally, Claim 9 contains ambiguous claim terminology which is unclear whether later recitations of originally recited terms are intended to refer to the originally recited terms. The phrase of “a common alignment level” (line 9) is unclear if these are referring to “a common alignment level (in Claim 8, line 12), previously recited. How many common alignment level(s) are there?

Claim Rejections - 35 USC § 103

5. Claims 1-3, insofar as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lugten, 3,483,499, Val et al 5,640,760, and European Patent Publication EP 782,154, referred to hereinafter as EP’ 154.

Lugten discloses a method of manufacturing a module comprising: forming a stacked assembly by stacking a plurality of aligned modular printed circuit elements (primary winding

shown in Fig. 3a) and supplementary modular printed circuit elements (secondary windings shown in Fig. 3b), each forming part of multiple windings with conductive tracks terminating on an edge thereof (see Figs. 2 and 4); creating connections on faces of the side surfaces to connect them to connection means T1, T2, T3, T4; and forming a square shaped orifice -V- (in Fig. 2) adapted to enable a conduit of a core 12, 13 to be inserted through the stacked assembly.

Lugten further suggests that it is conventional in the art to mold the entire stacked assembly with an encapsulating material, which when the encapsulated material is dried, would form a rigid block (discussed at col. 4, lines 56-57).

Lugten does not mention the molding material is composed of an insulative material or the step of cutting the molded block to expose conductive tracks.

Val teaches the formation of a molded block with polymerizable insulating resin (see col. 3, lines 6-9) which is *subsequently* cut at slicing planes 23 within a stacked block (see Figs 2c and 3) to purposely expose conductive tracks 25 on side surfaces at a common alignment level of the cut block material. Such an advantage of this process allows the electrical interconnection with other electrical circuits (see col. 3, lines 47-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Lugten method by including the step of cutting the molded block, as taught by Val, to positively expose conductive tracks on side surfaces of a stacked block material and also advantageously allow for the electrical interconnection of the block module with other electrical circuits.

EP' 154 teaches in various embodiments an inductive module with which an electrically insulating resinous material 55 is formed over the module to electrically insulate the module (see col. 4, lines 27-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Lugten by molding or encapsulating the stacked module assembly with the insulating material of EP' 154, to electrically insulate the module.

6. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lugten in view of Val et al.

Lugten discloses the claimed manufacturing method of obtaining a module comprising: providing a first support (wafer *p*) and a second support (wafer *o*); forming a first conductive track *u* and a second conductive track *u* where each of the conductive tracks *u* forms turns on each respective first and second support terminating at an edge thereof (see Figs. 2 and 3a); providing a supplementary support (wafer *n*) that carries an electrical component (wafer *m*) that also has another conductive track *u* terminating at an edge thereof; molding an insulative material over the stacked assembly to form a block (see col. 4, lines 55-57); forming a square shaped orifice -V- (in Fig. 2) enabling a conduit of a core 12, 13 to be inserted through the stacked assembly; and interconnecting the conductive track elements (T1, T2, T3, shown in Fig. 3b).

Val teaches a circuit patterning process by molding a stacked assembly to form a rigid block with electrically insulating polymerizable resin (see col. 3, lines 6-9) and *subsequently* cutting the stacked assembly at slicing planes 23 (see Figs 2c and 3) to purposely expose conductive tracks 25 on side surfaces on a common alignment level of the cut stacked assembly.

Such an advantage of this process allows the electrical interconnections with other electrical circuits (see col. 3, lines 47-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Lugten method by utilizing the circuit patterning process taught by Val, to positively expose conductive tracks on side surfaces of a stacked assembly and also advantageously allow for the electrical interconnection of the rigid block stacked assembly with other electrical circuits.

Response to Arguments

7. Applicant's arguments filed 7/25/01 have been fully considered but they are not persuasive.

While it is true that the examiner agrees with the applicants' contention that Lugten teaches molding an insulative material on the stacked assembly *after* the interconnection of the conductive tracks T1, T2, etc., the suggestion of the encapsulation by Lugten does not teach away from the claimed manufacturing method because the encapsulation does not prevent the interconnections T1, T2 from occurring. However, the order of steps, i.e. cutting the stacked assembly *after* molding, was relied upon in Val et al (beginning at col. 3, lines 6+). The teachings of Val provide an improvement over Lugten to allow circuit patterning to occur on the edges of the stacked assembly at a common alignment level. This circuit patterning ultimately provides the stacked assembly to be electrically connected with other electrical circuits, or even better perhaps, with other electrical components.

Furthermore, the examiner also traverses the applicants contention that Lugten does not teach batch fabrication. The module of Lugten is for batch manufacturing or fabrication of multiple modules as suggested at col. 6, lines 4-8.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Lugten in combination with Val et al, each share the concepts of circuit patterning in the formation of module of a stacked assembly to allow electrical interconnection with other electrical circuitry or other electrical components. Therefore, pursuant to MPEP § 706.02 (j), the examiner has established a *prima facie* case of obviousness and maintains the grounds of rejection above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

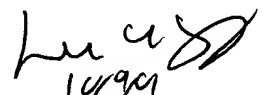
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

adt
October 5, 2001


10/9/01
LEE YOUNG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.